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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/518,533

12/30/2004

Markus Oles

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ALEXANDRIA, VA 22314

EXAMINER

WALTERS JR, ROBERT S

ART UNIT

PAPER NUMBER

1792

NOTIFICATION DATE

DELIVERY MODE

03/22/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/518,533	Applicant(s) OLES ET AL.	
	Examiner ROBERT S. WALTERS JR	Art Unit 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 December 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-27 and 31-40 is/are pending in the application.
- 4a) Of the above claim(s) 14-24,36 and 37 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 25-27,31-35 and 38-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
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| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1792

DETAILED ACTION

Status of Application

Claims 14-27 and 31-40 are pending. Claims 14-24, 36 and 37 are withdrawn. Claims 25-27, 31-35 and 38-40 are presented for examination.

Response to Arguments

Applicant's arguments with respect to claims 25-27, 31-35 and 38-40 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

Claim 40 is objected to because of the following informalities: PTFE should be rewritten as polytetrafluoroethylene. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

Art Unit: 1792

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

1. Claims 25-27, 31-35 and 38-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glenn et al. (U.S. Pat. No. 6235683) in view of Long (U.S. Pat. No. 5392559).

I. Regarding claims 25-27, 31-34, 38 and 39, Glenn teaches an aqueous surfactant-free suspension and the use of these mixtures for application to plants for protection of the plants from frost (abstract). Glenn teaches the aqueous surfactant-free suspension comprising an organic solvent, water, and a hydrophobic (column 4, lines 52-53), nanostructured particle wherein the particle is less than about 100 microns (note that overlapping ranges are *prima facie* evidence of obviousness, see column 5, lines 47-51), wherein the suspension comprises at least 50.01% by weight of water (see Example 1, treatment 3, column 9), and the hydrophobic particles consist of TRANSLINK 77 (see Example 1, treatment 3, column 9) and may also be

Art Unit: 1792

other particles with hydrophobicity imparted by a treatment with alkylsilane (column 5, lines 5-41). Glenn teaches preparing this solution by suspending the nanostructure particles in an organic solvent miscible with water and having a boiling point less than 150 °C, and then mixing this with surfactant-free water to form the suspension (see Example 1, treatment 3, column 9). It should be noted that the term nanostructured particle is a broad term and would encompass any ridge or indentation in the nanoscale range on a particle and does not limit the claim to structures having a defined nanoscale texture on the surface of the particle. Glenn teaches that the particles that are preferably used are about less than 100 microns, and these particles, being minerals or treated minerals, would inherently not have a perfectly flat texture and would have imperfections that would correspond to ridges and indentations on the nanoscale range (corresponding to an irregular surface nanostructure with features in the range of 10 to 100 nm), thus reading on the claimed term of nanostructured particle and claim 34. Further, it should be noted that even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product by process claim is the same as or obvious from a product of the prior art, as in this case, the claim is unpatentable even though the prior product was made by a different process.

Glenn further teaches the suspension having 0.1 to 49.9% by weight of methanol (see Example 1, treatment 3, column 9) and at least 60% water (see Example 1, treatment 3, column 9). Glenn also teaches the use of solvents other than methanol, such as acetone (column 8, lines 44-51) as well as teaching that the solution only consists of water, the nanoparticles and the organic solvent (see Treatment 3 of Example 1, column 9).

Art Unit: 1792

Glenn fails to teach the particle present in 0.01 to 1% by weight. Glenn further fails to teach the particles consisting of a metal, a polymer and mixtures thereof.

First, it would have been obvious to one of ordinary skill in the art at the time of the invention that adjusting the concentration of the particulate materials would adjust the amount of particulate material applied to the plant. Furthermore, Glenn makes clear that the amount of particulate material needed varies depending on a number of factors (column 6, lines 20-29). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to choose the instantly claimed range for the concentration of the particulate material through process optimization, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. See *In re Boesch*, 205 USPQ 215 (CCPA 1980).

Second, Long teaches the use of hydrophobic polytetrafluorethylene polymer particles for application to surfaces to protect from insect infestation (abstract), wherein the surface may be trees (Figure 3). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Glenn's suspension by using ptfe particles (as disclosed by Long) of less than 100 microns as the hydrophobic particles. One would have been motivated to make this modification to obtain protection for the plants from both freezing and insect infestation.

II. Regarding claim 35, Glenn in view of Long teach all the limitations of claim 25, but fail to explicitly teach that the particles are not agglomerated. However, Glenn does teach that the particles should be finely divided (column 5, lines 47-48). Therefore, based on this teaching, it would be obvious to one of ordinary skill in the art at the time of the invention to modify Glenn

Art Unit: 1792

in view of Long's suspension by ensuring that the particles are not agglomerated. One would have been motivated to make this modification as Glenn actually teaches the benefits of the particles being finely divided (see above).

III. Regarding claim 40, Glenn in view of Long teach all the limitations of claim 25, including the use of PTFE particles (see above). Glenn in view of Long fail to teach that the ptfe is cryogenically ground. However, in the absence of evidence to the contrary, the examiner contends that Glenn in view of Long's surfactant-free suspension of ptfe particles would be identical to the claimed suspension utilizing cryogenically ground ptfe. As long as the particles are the same size, the examiner maintains that the suspensions would be expected to have identical properties.

Conclusion

Claims 14-27 and 31-40 are pending.

Claims 14-24, 36 and 37 are withdrawn.

Claims 25-27, 31-35 and 38-40 are rejected.

No claim is allowed.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

Art Unit: 1792

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT S. WALTERS JR whose telephone number is (571)270-5351. The examiner can normally be reached on Monday-Friday, 8:00am to 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on (571)272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/518,533

Page 8

Art Unit: 1792

/ROBERT S. WALTERS JR/

March 10, 2010

Examiner, Art Unit 1792

/Barbara L. Gilliam/

Supervisory Patent Examiner, Art Unit 1792